

ABSTRACT

THE LARVICIDAL EFFECT OF THE MANGOSTEEN (*Garcinia mangostana Linn*) PEEL EXTRACT TO THIRD INSTAR *Aedes aegypti* LARVA

By

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Dengue Hemorrhagic Fever (DHF) is a fatal diseases because of its ability to become severe in short periods and cause many deaths. The prevention of DHF by eliminating the vector by using insectisicides is done all the time. Chemical insecticides have a lot of adverse effects to human's health and enviorenment. Those adverse effects can be minimalited using natural insecticides and one of them is mangosteen (*Garcinia mangostana Linn*) peel extract. The mangosteen (*Garcinia mangostana Linn*) peel extract contains alfa-mangostin, saponin, flavonoid and tanin that can kill the larva.

This research aims to know the effectiveness, LC_{50} and LT_{50} of mangosteen (*Garcinia mangostana Linn*) peel extract as larvacide. This study was an experimenal study and used randomized control trial method. Divided into 6 groups of experiment wich is 0% (control negative), 0,25 %, 0,5%, 0,75%, 1% and abate 1% (control positive). Each container was given 200 ml ethanol 96% mangosteen peel extract. Subjects are 600 third instar of *Aedes aegypti*, contained

25 larvae and replicated four times and during the experimentation, larvae are fed with fish food. The result was analyzed using Kruskal-Wallis test and post-hoc Man Whitney.

The result showed that the average number of death larvae are 81 % in 0,25 % concentration; 91 % in 0,5 % concentration; 95 % in 0,75 % concentration and 100 % in 1 % concentration. Therefore, the most effective concentration was the 1 % concentration because it could kill the larvae faster. The LC_{50} was 2,458 % in 40 minutes; 2,267% in 60 minutes; 1,923% in 120 minutes; 1,096 % in 240 minutes; 0,585 % in 480 minutes and 0,219 % in 1440 minutes. The LT_{50} was 484,411 minutes in 0,25 % concentration; 387,729 minutes in 0,5 % concentration; 426,910 minutes in 0,75 % concentration and 234,937 minutes in 1 % concentration.

Key words : *Aedes aegypti*, mangosteen (*Garcinia mangostana* Linn) peel extract and larvacides